

**Amendments to the Claims:** This listing of claims will replace all prior versions, and listings, of claims in the application

**Listing of Claims:**

1. (Currently amended) A radio communications system comprising:

(a) an intrinsic pavement transmitter and antenna;

(b) a first transmitter/receiver, at a first point along the intrinsic pavement transmitter and antenna, and in communication with an end-user; and

(c) a second transmitter/receiver, at a second point along the intrinsic pavement transmitter and antenna, and in communication with an end-user; wherein the intrinsic pavement transmitter and antenna conducts radio frequency signals between the first and second transmitter/receiver entirely within the pavement transmitter and antenna.

2. (Previously presented) The radio communications system of claim 1, wherein the second transmitter/receiver is coupled to the end-user with a hard wire.

3. (Previously presented) The radio communications system of claim 1, wherein the second transmitter/receiver is a conductive surface portion of the intrinsic pavement transmitter and antenna.

4. (Previously presented) The radio communications system of claim 1, wherein the first transmitter/receiver is adjacent to the intrinsic pavement transmitter and antenna.

5. (Previously presented) The radio communications system of claim 1, wherein the first transmitter/receiver is located in the intrinsic pavement transmitter and antenna.

6. (Currently amended) An intrinsic pavement transmitter and antenna, comprising a roadway, including:

(a) a suitable wearing course material; and

(b) an effective amount of radio frequency conductive material, sufficient to conduct transmit and receive radio frequency signals, i.e.s between at least two locations

within the pavement, such that the radio frequency signals are conducted entirely within the pavement transmitter and antenna.

7. (Previously presented) The intrinsic pavement transmitter and antenna of claim 6, wherein the radio frequency conductive material is at least one member selected from a group consisting of: radio frequency transmittable polymers, metal shavings, metal dust and conductive carbons.

8. (Previously presented) The intrinsic pavement transmitter and antenna of claim 7, wherein the conductive carbon is at least one member selected from a group consisting of carbon black, carbon fiber, graphite and coke breeze.

9. (Previously presented) The intrinsic pavement transmitter and antenna of claim 7, wherein the radio frequency transmittable polymers include: polyacetylene, polyaniline, polypyrrole, polythiophenes, polyethylenedioxythiophene and poly(p-phenylene vinylene)s.

10. (Previously presented) The intrinsic pavement transmitter and antenna of claim 7, wherein the metal shavings are at least one member selected from a group consisting of: iron, iron alloys, aluminum, aluminum alloys, copper and copper alloys.

11. (Previously presented) The intrinsic pavement transmitter and antenna of claim 7, wherein the metal dust is at least one member selected from a group consisting of: iron, iron alloys, aluminum, aluminum alloys, copper and copper alloys.

12. (Previously presented) The intrinsic pavement transmitter and antenna of claim 6, wherein the suitable wearing course material is at least one member selected from a group consisting of: asphalt and concrete.

13. (Previously presented) The intrinsic pavement transmitter and antenna of claim 6, wherein the conductive material is intermixed with the wearing course material.

14. (Previously presented) The intrinsic pavement transmitter and antenna of claim 6, wherein the conductive material and the wearing course material are substantially distinct layers.

15. (Previously presented) The intrinsic pavement transmitter and antenna of claim 6, further comprising an insulating layer proximate the roadway.